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SCIENTIFIC AND CLINICAL SESSION

We take this occasion to welcome you to our 4th Annual Convention.
Corrective Therapy
is an important adjunct in the Physical Medicine Rehabilitation Program.
A general program with important advances made in this field
this past year will be presented.

ASSOCIATION FOR PHYSICAL AND MENTAL REHABILITATION

Hotel Peabody - Memphis, Tennessee

MAY 23rd - 27th, 1950

GENERAL INFORMATION . . .

Registration: Registration will begin at 8:30 a.m. on Tuesday, May 23, 1950 and will continue until Saturday, May 27, 1950. The Registration Desk is located at the west end of the mezzanine.

The Registration Fee of $10. includes the luncheon and attendance at all meetings. For those desiring to attend one day only, the fee is as follows: Wednesday, May 24, 1950, $5.00 (includes Luncheon); Thursday, May 25, 1950, $2.00; Friday, May 26, 1950, $2.00; Saturday, May 27, 1950, $1.00.

Hotel Reservation: Anyone desiring hotel accommodations may contact the Registration Committee at the Registration Desk.

Badges: All members, visitors, and guests will be required to wear the official Convention Badge or present the single-day registration ticket for admission to all sessions.

Entertainment: The Reception Committee will have information at the Registration Desk regarding the various forms of entertainment available in Memphis.

OFFICIAL PROGRAM

Fourth Annual Scientific and Clinical Session
Association for Physical & Mental Rehabilitation

Hotel Peabody, Memphis, Tennessee
May 23, 24, 25, 26, 27, 1950

Tuesday - May 23

9:00 a.m.— 8:00 p.m. Registration

9:00 a.m.—10:00 a.m. Meeting of Executive Board

9:00 a.m.— 5:00 p.m. Exhibits open

10:00 a.m.—12:00 N. Meeting of Executive Board and Representative Assembly

1:00 p.m.— 5:00 p.m. Meeting of Executive Board and Representative Assembly

8:00 p.m.—10:00 p.m. Reception

Wednesday - May 24

7:30 a.m.— 8:45 a.m. Past Presidents' Breakfast

8:00 a.m.— 5:00 p.m. Registration—Exhibits

General Assembly

Morning Session:

Presiding: Clement G. McNamara, Convention Chairman

9:00 a.m.— 9:20 p.m. Invocation: Rev. John A. Elliott, Principal, Catholic High School, Memphis, Tenn.

Welcolme: Honorable Watkins Overton, Mayor, Memphis, Tenn.

Response: Raymond W. Swanson, President

9:20 a.m.—10:00 a.m. "Teaming for Rehabilitation", Dr. A. B. C. Knudson, Chief, PMR Division, VA CO, Washington, D. C.

10:00 a.m.—10:45 a.m. "Remedial Exercises and Rehabilitation in Back Injuries", Dr. Marcus J. Stewart, Campbell Orthopedic Clinic, Memphis, Tenn.

10:45 a.m.—11:15 a.m. Visiting Exhibits

11:15 a.m.—12:00 N. "The Present Educational Challenge and Opportunity in Corrective Therapy", Dr. John E. Davis, Chief, Corrective Therapy, VA CO, Washington, D. C.

12:30 p.m.— 2:30 p.m. Luncheon

Introduction of Guests: Dr. Clyde M. Beck, Manager, Kennedy VA Hospital, Memphis, Tenn.

Introduction of Speaker: Dr. John E. Davis

Guest Speaker, "Role of Activity in Therapy", Dr. Alan Gregg, Medical Director, Rockefeller Foundation, New York, N. Y.

Afternoon Session:

Presiding: Phil Davis, Exec. Asst., PMR Service, VA Hospital, Columbia, S. C.

2:45 p.m.— 3:20 p.m. "Corrective Therapy in the Rehabilitation of the Blind", Charles W. Bledsoe, National Consultant of Blind, Washington, D. C.

3:30 p.m.— 4:30 p.m. Closed Meeting, Active Members, Association Physical & Mental Rehabilitation

Dr. A.B.C. Knudson, Chief, PMR Division, VA CO, Washington, D. C.

Dr. Carl C. Hoffman, Asst. Chief, PMR Division, VA CO, Washington, D. C.

Dr. John E. Davis, Chief, Corrective Therapy, VA CO, Washington, D. C.

Raymond W. Swanson, Chief, Educational Therapy, VA CO, Washington, D. C.

Leon E. Edman, Asst. Chief, Correcrective Therapy, VA CO, Washington, D. C.

Evening Session:

Presiding: Dr. A.B.C. Knudson, Chief, PMR Division, VA CO, Washington, D. C.

7:00 p.m.— 8:00 p.m. Joint Meeting of Physiatrists, Executive Assistants, Physical Therapists, Occupational Therapists, Manual Arts Therapists, Educational Therapists and Corrective Therapists

8:00 p.m.— 9:00 p.m. Section Meetings:

Executive Assistants, PMR Service

Presiding: Eugene E. Speer, Exec. Asst., PMR Div., Area Medical Office, VA Dist. No. 5, Atlanta, Ga.

Physical Therapists, PMR Service

Presiding: Junia E. Swanson, Chief, Physical Therapy, VAMTG(Kennedy Hospital), Memphis, Tenn.

Occupational Therapists, PMR Service

Presiding: Ruth M. Zieke, Chief, Occupational Therapy, VAMTG (Kennedy Hospital), Memphis, Tenn.

Manual Arts Therapists, PMR Service

Presiding: Robert E. Craig, Chief, Manual Arts Therapy, VAMTG, (Kennedy Hospital), Memphis, Tenn.

Educational Therapists, PMR Service

Presiding: Raymond E. Swanson, Chief, Educational Therapy, VA CO, Washington, D. C.

Thursday - May 25

8:00 a.m.— 5:00 p.m. Registration—Exhibits

Morning Session:

Presiding: George Devins, President-Elect

9:00 a.m.— 9:40 a.m. "Functional Bracing", Dr. Robert L. Bennett, Director, Physical Medicine, Warm Springs Foundation, Warm Springs, Go.

9:40 a.m.—10:40 a.m. Neuropsychiatric Case Histories presented by:

Sam Boruchov, Chief, Corrective Therapy, VA Hospital, Northport, N. Y.

Harlan Wood, Chief, Corrective Therapy, VA Hospital, Topeka, Kans.

John Dixon, Chief, Corrective Therapy, VA Hospital, Murfreesboro, Tenn.

Chris Kopf, Chief, Corrective Therapy, VA Hospital, Lyons, N. J.

10:40 a.m.—11:00 a.m. Summary — Dr. Edward D. Greenwood, Director, The Southard School, Division of Menninger Foundation, Topeka, Kans.

11:00 a.m.—12:00 N. "Corrective Therapy as it Relates to the Neuropsychiatric Patient", Dr. Edward D. Greenwood, Director, The Southard School, Division of Menninger Foundation, Topeka, Kans.

Afternoon Session:

Presiding: Louis M. Frazier, Chief, Corrective Therapy, Kennedy VA Hospital, Memphis, Tenn.

1:00 p.m.— 2:00 p.m. Trip to Kennedy VA Hospital, Memphis, Tenn.

2:00 p.m.— 2:45 p.m. Tour of Independence Hall, Kennedy VA Hospital, Memphis, Tenn.

2:45 p.m.— 3:30 p.m. Spinal Cord Injury Clinic—Florence I. Mahoney, M.D., Chief, PMR Service, Kennedy VA Hospital, Memphis, Tenn. and
Everett M. Sanders, Asst. Chief, Corrective Therapy, Kennedy VA Hospital, Memphis, Tenn.

3:30 p.m.— 4:00 p.m. Critique — Dr. Louis B. Newman, Chief, PMR Service, VA Hospital, Hines, Ill.

4:00 p.m.— 5:00 p.m. Sight Seeing Trip of Memphis (Return from Kennedy VA Hospital)

Evening Session:

7:00 p.m.— 9:00 p.m. Educational Films:
"Journey Back"
"You Can Hear Again"
"Living With Limitations"
"You Can Lick TB"
"Prescription For Work"

Friday - May 26

8:00 a.m.— 5:00 p.m. Registration—Exhibits

8:00 a.m.— 9:00 a.m. Meeting, Executive Board and Representative Assembly
1. Election of President; Director of Publications
2. Selection of Convention Site.

Morning Session:

Presiding: Leon B. Edman, Asst. Chief, Corrective Therapy, VA CO, Washington, D. C.

9:00 a.m.— 9:40 a.m. "Medical Aspects of the Neurological Patient", Dr. Ben L. Boynton, Chief, PMR Service, VA Hospital, Houston, Texas

9:40 a.m.—10:20 a.m. "Corrective Therapy in the Treatment of Neurological Diseases", Dr. Ben L. Boynton, Chief, PMR Service, VA Hospital, Houston, Texas

10:20 a.m.—10:40 a.m. Visiting Exhibits

10:40 a.m.—11:20 a.m. "Use of Pulley Weights in the Treatment of Multiple Sclerosis Patient" Stanley Wertz, Corrective Therapist, Kennedy VA Hospital, Memphis, Tenn.

11:20 a.m.—12:00 N. "Corrective Therapy for the Normal Person", Dr. C. H. McCloy, Division, Physical Education, State University of Iowa, Iowa City, Iowa

Afternoon Session:

Presiding: A. Lewis Scholl, Vice President

1:00 p.m.— 1:40 p.m. "Walking Problems of the Above-Knee Amputee", Signe Brunnstrom, Director of Professional Education, The Kessler Institute of Rehabilitation, W. Orange, N. J.

1:40 p.m.— 2:20 p.m. "An Analysis of Amputee Limps—Cause and Correction", Signe Brunnstrom, Director of Professional Education, The Kessler Institute of Rehabilitation, W. Orange, N. J.

2:20 p.m.— 2:40 p.m. Visiting Exhibits

2:40 p.m.— 5:00 p.m. "Research in Brace Making", John L. Young, Ph.D., Fellow in Research on Orthopedic Appliances, The Sarah Mellon Scaife Foundation, Mellon Institute, Pittsburgh, Pa.

Evening Session:

Presiding: Raymond W. Swanson, President

7:00 p.m.— 9:00 p.m. General Business Meeting; Committee Reports; Election of Officers

Saturday - May 27

Presiding: Sam Boruchov, Past President

8:00 a.m.—11:00 a.m. Registration—Exhibits

9:00 a.m.—10:00 a.m. Meeting, New Executive Board

9:00 a.m.— 9:40 a.m. "Corrective Therapy in Cardiac Patient", Dr. Ben L. Boynton, Chief, PMR Service, VA Hospital, Houston, Texas

9:40 a.m.—10:20 a.m. "Needed Research in the Field of Corrective Therapy", Dr. C. H. McCloy, Division of Physical Education, State University of Iowa, Iowa City, Iowa

10:00 a.m.—11:00 a.m. Meeting of Committees

10:20 a.m.—11:00 a.m. "Relaxation", Jack Tractir, Chief, Corrective Therapy, VA Hospital, Houston, Texas

11:00 a.m.—11:45 a.m. "Present Status of Studies in the Reeducation of the Catatonic Patient", Paul Roland, Chief, Corrective Therapy, VA Hospital, Danville, Ill.

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BROCKMAN MANUFACTURING COMPANY
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The Brockman Manufacturing Company of Bala-Cynwyd, Pennsylvania, invites you to see how Progressive Resistive, Active, Active Assistive and Passive Exercises are all obtainable with the electronically controlled Brockman THERAPEUTIC Exerciser.

CHARLES REED BUICK COMPANY
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Charles Reed Buick Company invites you to see the new BUICK in the lobby which is equipped with Steward's Mechanical Hand Controls and Dynaflow. "If you can use your hands — you can drive a BUICK."

EXERCYCLE CORPORATION
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A new modality for use in medically prescribed exercise programs by which the therapist can carry out a wide variety of therapeutic techniques with economy of time and enjoyment by the patient.

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Foot Culture, orthopedic shoe specialists, invites you to a demonstration of their films, shoes, and lasts, illustrating the techniques used in the construction of their product, in conjunction with actual case histories of those afflicted with various orthopedic deformities. We sincerely request your inquiries.

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On exhibit will be artifical limbs, including the suction socket, various types of arms and hooks, braces of various kinds and orthopedic belts.

SAM FORTAS HOUSEFURNISHING COMPANY, INC.
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On display will be the latest designs in folding wheelchairs as well as extraordinary wheelchairs made for very difficult cases such as basket cases, quadriplegics, and those with one arm. Crutches of the latest design will be shown. Manifold activities, including sports, for which Everest and Jennings Wheelchairs are adapted will be illustrated.

TYPEWRITING INSTITUTE FOR THE HANDICAPPED
208 West 23rd Street, New York, N. Y.

Dvorak Scientific One Hand Typewriters with assistive apparatus will be on display and demonstrated. Charts, diagrams and photographs will illustrate how typewriting for the handicapped is therapeutic, utilitarian and vocational.

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Eric Barkschat, afflicted with Multiple Sclerosis, wishes to demonstrate his FOLDAWAY "JIM" and REXERCISER, which through daily exercises, according to advice and instruction from the physician, contribute to his steadily progressing rehabilitation.

YORK BARBELL COMPANY
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Progressively controlled exercising appliances for rehabilitation, conditioning, muscular reeducation and strength developing. Apparatus demonstrated includes foot weights, barbells, iron dumbells, hand strengtheners, rubber and steel spring cable chest pulleys.

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THE REHABILITATION OF THE PARAPLEGIC

By

HARRY KESSLER, M.D., and ARTHUR S. ABRAMSON, M.D.

Bronx, New York

(*From the Physical Medicine Rehabilitation Service, Veterans Hospital, Bronx*)

The presently accepted definition of rehabilitation is the maximal degree of physical, mental, social, vocational, and economic recovery which is attainable in the case of a given disability. While the factors involved in each individual patient will vary to the extent that greater or lesser stress must be placed on one or the other of the attainable goals we have just mentioned, it becomes obvious that a thorough survey of the patient and his environment, from every conceivable standpoint, is a necessary prerequisite to the establishment of a program which will serve the ultimate purpose. Furthermore, while the patient's disability must always be considered from a purely medical standpoint– else we shall have no rehabilitation program by virtue of the fact that we shall have no patient–as convalescence progresses, the emphasis is placed more and more upon his innate and residual ability, with the disability considered as a limiting border within which we may work and within which we may discover the solution to our problem.

The completely rehabilitated paraplegic, therefore, is one who is able to care for his daily needs without assistance, who is able to ambulate with braces and crutches, and who is reintegrated into society to the extent that he is able to make a living at a job for which he is fitted both mentally and physically. From the time that the patient is brought to the hospital until he has reached this point, many months of hard work, as well as infinite patience, are required of a staff well-trained in the care of the existing pathology and fully versed in the concepts of medical rehabilitation.

Broadly speaking, the treatment of a paraplegic may be divided into two phases: definitive medicine and rehabilitative medicine. However, it should be emphasized that the division between definitive and rehabilitative medicine is purely artificial; actually, both phases must proceed simultaneously, and they must be carefully integrated so that they become part of one over-all program directed toward a common goal.

Since the internist, neurosurgeon, orthopedist, urologist, and plastic surgeon, as well as the physiatrist, are all concerned with the treatment of the paraplegic, it becomes evident that a closely knit team of specialists in these fields who have more than a superficial interest in paraplegics must be developed. Early in the plan of treatment the internist has a very important role in solving the problems of nutrition. The neurosurgeon treats compression of the spinal cord, pain, and spasticity by surgical methods. The orthopedist is interested in fixed contractures, spinal fractures and proper bracing. The plastic surgeon must close bed sores; the urologist must make certain that there is an adequately functioning bladder. While interested in all of these phases of therapy, the physiatrist utilizes the facilities of physical medicine to attack the basic problems of nonfixed contractures and spasticity and to train the patient in self care and in ambulation. Hand in hand with these procedures is the very important role of the vocational advisor who, through his special methods of testing, is able to determine the patient's interests and aptitudes and by frequent interviews to lead the patient toward the proper vocational goal. Here again the physiatrist is concerned, for by observing the patient's reaction to and progress in practical application to educational and manual arts fields valuable information will become available in the ultimate consideration of a definite vocational objective. As long as the process of rehabilitation proceeds smoothly, psychiatry plays but a minor role; however, when this is not the case, the psychiatrist will find his place in the treatment of those difficulties which have become manifest.

It would be well, at this time, to outline the progress of the paraplegic from one stage to another in order that the roles of the various specialties may be properly evaluated and viewed in their proper perspective. The clinical course of the traumatic paraplegic, whether the disability is caused by spinal fracture, missiles, or acute infection or hemorrhage, is classic. In such instances the paralysis is of sudden onset. Where the paralysis is of slower onset in the course of its association with other etiologic factors such as expanding tumors, tuberculosis of the spine, etc., variations in the stages will obviously occur. For the purpose of this discussion, only the course of the traumatic paraplegic will be considered.

When injury first occurs, the par-

alysis is complete, or almost complete, and flaccid below the level of damage. The bladder is atonic, and unless catheterized there will be urinary retention and overflow. The appetite is lost with consequent negative nitrogen balance. Such a patient, whose tissues are already more susceptible to trauma because of excessive loss of protein and who is not turned frequently enough to minimize pressure on bony prominences, will develop decubiti which will tend to increase in size rather than to heal.

The decision whether or not to do a laminectomy must be made at this time. With marked displacement of the fractured vertebra or in the presence of multiple bone fragments following fracture of the laminae, an early laminectomy is usually elected. Because of the edema and hemorrhage within the cord an immediate laminectomy is fraught with some danger, since sudden decompression may cause even greater damage to the cord than that which might result from compression within the rigid spinal canal. Routine immediate laminectomy is gradually losing favor, since there is very little evidence that the end result is influenced to any great extent. Consequently, consideration is given to an early rather than immediately laminectomy for the reasons stated. It is usually performed about a week after the injury, thereby permitting the edema of the spinal cord to subside. At no time should the dura be incised in the course of an immediate or even early laminectomy, since during the period of swelling the cord tissue may be extruded, very much like tooth paste under pressure. The delayed laminectomy, which may be performed at any time, is usually accomplished because of the evidence of block or the presence of foreign bodies within the cord; it is also, at times, performed in the presence of pain and spasticity, with occasional partial relief of these manifestations. The very late laminectomy has rarely been known to afford a patient any renewed hope for recovery beyond that which might have been expected without such surgery.

Plaster casts are rarely applied by the orthopedist because of the almost unavoidable development of decubiti. Immobilization can be accomplished to a fairly satisfactory degree by the use of a Stryker bed in which the patient may be turned from prone to supine position or vice versa without exposing him to excessive strain.

During this stage, also called the stage of spinal shock because of the flaccidity, atonic bladder, and negative nitrogen balance, nutrition becomes extremely important. There may be an enormous loss of weight associated with and influenced by the following factors:

1. Anorexia with consequent decrease of caloric intake.

2. General deconditioning which comes with bed rest and with lack of activity.

3. The paralysis per se with the inability, therefore, of a large portion of the body to develop the protein-building stimulus of muscular contraction.

4. Inability to bear weight with the consequent absence of the influence which the stimulus of longitudinal pressure on bones exerts on the formation of bony osteoid; with the loss of such protein osteoid, calcium is also lost and osteoporosis results.

5. Decubiti which allow the loss of enormous quantities of nitrogenous materials through copious drainage.

6. Genitourinary infections associated with hyperpyrexia.

From a study of these factors it becomes readily apparent that diet alone will not replace this great protein loss. However, soon after the injury the institution of general body exercises for the uninvolved musculature may be of considerable therapeutic value in preventing general deconditioning. The loss of muscular contraction in the area involved in the paralysis, with its concomitant deleterious effect upon protein building, cannot be altered at this stage and must be accepted. Similarly, weight bearing is not feasible during this period, and, it may be added, unless proper nutrition can be established surgical closure of the bed sores may be unsuccessful. Thus, at this stage, diet, exercise, and antibiotics, as indicated, are invaluable. It should be noted that the normal high protein diet which would ordinarily supply less than 150 Gm. of protein a day is wholly inadequate; consequently, added forced administration of protein hydrolysates and blood plasma must be resorted to in order to raise the intake of protein up to at least 200 Gm. per day.

There are two choices of bladder care at this time: the patient may either be placed on tidal drainage, or he may have a suprapubic cystostomy. Within recent years the suprapubic cystostomies have been condemned because they were accused of producing small, contracted bladders; however, we have more and more frequently observed adequately functioning bladders following such procedures, even in cases where suprapubic drainage had existed for long periods of time and was later discontinued.

Following a period of from several weeks to several months, the stage of spinal shock gradually subsides. In lesions of the cord above the conus, spasticity usually results; in lesions of the conus and cauda equina, flaccidity becomes a permanent feature. Spasticity may become extremely vigorous, and muscles which had become markedly atrophied during the period of spinal shock may recover their bulk almost fully. The appetite improves; ulcers which were necrotic and bluish in appearance, with a tendency toward growing in size, now appear cleaner and healthier and manifest tendencies toward epithelialization and cicatrization. In lower motor neuron lesions the bladder changes from the atonic type to the autonomous type with mild bladder contrac-

tions resulting from impulses originating in the intrinsic plexus of nerves within the bladder wall itself. In upper motor neuron lesions the atonicity disappears and is replaced by bladders of different types, all more or less hypertonic in nature.

By this time, nutrition is spontaneously improving, and forced feedings are more readily accepted. The quality of the skin has improved, and the plastic surgeon may now consider plastic closure of the bed sores. Spontaneous closure of the decubiti by cicatrization frequently results in a structure which is very poorly resistant to recurring ulceration; split thickness grafts may also fall into this same category. Far more preferable, therefore, is the surgical closure made up of wide rotating flaps which are full thickness and which close the bed sore completely, thus preventing further protein loss from drainage.

Occasionally, pain of a sharp, crushing, or burning character may develop in the lower extremities. Neither pain nor spasticity should, at this stage, be treated surgically, since not infrefrequently the character of these manifestations may become altered with the passage of time. This conservative attitude should also be applied in dealing with the paralysis itself, since the apparent existence of complete paralysis during the stage of spinal shock may, in many instances, give way to spontaneous recovery of power. As a result of severe spasticity, flexion contractures may begin to appear, but these, again, are not yet to be treated surgically by the orthopedist. The urologist, in the presence of a bladder which remains dilated because of failure to recover its contractility and which contains a considerable residual of urine, is faced with the alternative of either permitting the suprapubic cystostomy to remain in situ permanently or of resecting the bladder neck in order to remove the existing obstruction to the free flow of urine.

While the patient was in the stage of spinal shock, the physiatrist was concerned only with general body exercises, proper bed posture, and passive motion to prevent contractures. At this time, however, the physiatrist becomes responsible for a greatly augmented and commensurately more important regime of therapy. The general body exercises must be continued, but they are now directed toward the objective of training the patient to get in and out of bed, into and out of his wheel chair and to attain the necessary strength required to accomplish those activities which are inherent in daily living. He must develop those muscles maximally which will aid the patient in ambulation. Ultraviolet irradiation of the bed sores must be applied in order to prepare these ulcers for surgery and to heal the smaller ones. Contractures must be treated by passive motion and by stretching of the spastic muscles. Spasticity itself must be treated early by stretching, massage, vigorous exercise to the upper extremities which, in itself, produces relaxation of spasticity, and by the use of tetanization of the spastic limbs; this type of therapy, however, will produce relief of spasticity for only short periods of time and should therefore, be limited in application. The so-called spasm-relieving drugs such as curare, myanesin, prostigmine, etc., have produced disappointing results. However, persistent activity and adjustment to society have been observed to exert an extremely favorable influence upon spasticity. Since this principle of activity may be identified with the working principle of rehabilition, it becomes an important factor in motivation.

When the existing decubiti have become well healed, the patient is measured for braces preparatory to ambulation. Also, at this time, bowel habits must be trained, and since this is a reflex action just as much as voiding, the patient must develop a daily schedule while sitting in the toilet, facilitating the process by increasing the intra-abdominal pressure to as great an extent as possible. Sphincter spasticity may be relieved to some degree by the use of glycerin suppositories. With relaxation of the rectal sphincter, the bladder sphincter may also become relaxed and so at least once a day the bladder may be completely, or almost completely, emptied. However, it should be emphasized that, to be successful, this regime must be followed religiously. The bladder may be trained either by the intake of periodic fixed quantities of fluids and by stimulation for emptying at fixed periods, depending on the bladder capacity, or by the one daily emptying during defecation and the use of a rubber urinal at all other times without regard to the time of emptying. The former method will not be feasible in those patients with the type of spastic bladder in which emptying is facilitated by spasticity; this type would do well to wear a rubber urinal.

As soon as is medically feasible, the patient should be set up on his braces and crutches and trained to ambulate. When his ability to ambulate has increased, it becomes no longer necessary to continue with mat exercises; ambulation is, of itself, maximal functional exercise, and it is also of great influence in the reduction of spasticity.

During the period of spinal shock the patient must never be allowed to pass the time merely looking at four walls. The occupational therapist is, therefore, called upon to administer some purposeful and stimulating activity in accordance with the patient's interests. When he graduates to a wheel chair, he should continue with this activity in the occupational therapy clinic where he will have the opportunity to develop more ambitious projects, some of which may be of only avocational interest while others may actually become of ultimate vocational interest to him.

As early in the course of hospitalization as may be considered feasible from a medical standpoint, the vocational advisor should interview the

patient and institute such surveys and tests as may be required to establish a vocational objective. In this regard and when indicated by specific problems, the psychologist may often be of invaluable assistance in the final evaluation of the patient's mental capacities. It should be emphasized that it may not be possible, at this time, to arrive at a definite conclusion and we may have to accept a tentative objective or, perhaps, no objective at all; in any case, it is of equal importance to recognize the absence of any specific plans or interests as it is to know that they exist.

It is at this point that educational therapy and manual arts therapy enter upon the important roles they are to play in the program of medical rehabilitation. Not only do these two sections serve to initiate and carry on, as long as the patient remains hospitalized, the preliminary phases of a planned and definite vocational objective, but they also, within the limits of their available diversified projects, serve to test the patient's interests and aptitudes from a practical standpoint. Thus, when the patient is able to come to the clinic, a few days or a week at a watch repair bench, radio repair unit, typewriter, or at any other project may be quite sufficient to reveal to himself and to his observers whether or not he has a real interest in this type of work and whether or not he has the required aptitude and ability to apply himself. Furthermore, by duplicating in the clinic actual working conditions as would be found in the shop, office, or classroom and by observing the patient's reaction thereto, it is often possible to answer the questions, "Can this patient meet the working conditions required of this position in outside industry, school, or profession?" "Can he tolerate this type of work for the required number of hours each day?" Experience has already revealed that, as a general rule, the paraplegic must plan for a shorter work day than is ordinarily encountered. It is, furthermore, obvious that careful attention must always be directed toward avoiding such working conditions as may be deleterious in any way to the individual patient under consideration.

We should like to point out here that what has been said does not, by any means, represent an intention to turn the hospital into a workshop or classroom but rather to apply the available facilities in a manner which will be truly therapeutic in nature. No one can deny that the patient who has set a definite goal for himself in life and who, with proper assistance and encouragement, observes a steady progress toward that goal, will undoubtedly manifest a far greater determination to recover, and at a more rapid pace, than the patient who lies in bed, devoid of all interest in his environment and discouraged by the outlook occasioned by his disability.

By this time, therefore, we have a patient who is well nourished, whose musculature is well developed, who has full control of his spasticity, who has learned to live with such pain that was not amenable to surgical intervention, whose bed sores are closed, who has no contractures, who is able to care for his daily needs, and who is able to ambulate long distances, climb stairs, and either drive his own car or use such public conveyance as he may find necessary. he is self-reliant and self-confident, and his mental outlook must essentially have changed from that of dependency to that of independence. Finally, he has a vocational objective toward which he is striving with every hope for successful accomplishment.

It should be understood that the patient will not always remain hospitalized long enough actually to attain this objective; further training may be necessary, whether it be in college, trade school, or apprenticeship. The training officer, another important member of our team, works with the vocational advisor to facilitate the necessary details required to enroll the patient for such further training as is required and thereby to obviate any untoward delay following his discharge from the hospital. One other essential function of this training specialist is that of keeping his fingers on the pulse of outside industry, so to speak, and thereby remaining constantly aware of the personnel requirements in various phases of activity. It would be most unfortunate for a patient to spend months or years of training for a type of vocation in which the field is known to be already overcrowded or where it is known that the competition will become so great that it may well preclude the possibility of employment for this paraplegic in the particular locality where he intends to reside.

During the period of hospitalization the social service worker should be in constant contact with the patient, his family, and community. No matter how careful our planning may have been, the existence of any domestic difficulties or misunderstandings may well wreck the entire program. The family of the paraplegic should be trained to accept him for what he is and to make a home for him which will be suitable for his physical needs and in which there will be no oversolicitous attitude or stimulation to self-pity.

Throughout this entire program and in all the activities and contacts which go to make it up, it cannot be too often repeated or overemphasized that each and every person who is involved in the rehabilitation of the paraplegic, whether he be a physician or a therapist, must have more than merely a professional interest in the patient; he must have a profound and intimate knowledge of the patient's problems, and the patient must be made aware of the fact that this knowledge and understanding is on an individual basis and not the result of impersonal generalizations. In this way, the approach of the doctor and therapist can be truly psychotherapeutic in nature, and the patient will be encouraged and stimulated to expend the vast amount of energy to be required in the months and, perhaps, years of

training which lie ahead. It must always be remembered that it is the patient who does most of the work—it is his program—and without his full understanding and cooperation it will be doomed to failure. Thus, with the full knowledge on the part of the physician, the therapist, and everyone else concerned, of the role each has to play, with the ability to do their parts well, and with the realization by the patient that he, too, must take an active interest in the program, then will rehabilitation for the paraplegic be successful, and he will return to his family and community with respect, with dignity, and, perhaps most important of all, with such self-respect and satisfaction in his accomplishment as he could not otherwise have attained.

Summary

1. It has been pointed out that the rehabilitation of the paraplegic actually commences at the moment of injury and is completed only when the patient can care for himself, ambulate with braces and crutches, is back home as an integral members of his family and society, and is gainfully employed.

2. The respective roles of the internist, neurosurgeon, plastic surgeon, urologist, psychiatrist, orthopedist, physiatrist, and associated technical personnel in the program of rehabilitation are described, and the importance of working together as a team is emphasized. Thus, there is a gradual change from dependency to self-reliance, both physically and psychologically coincident with the development of rehabilitation toward its ultimate goal.

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STRENGTH CURVES FOR FOURTEEN JOINT MOVEMENTS

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Initiated as a research project in physical reconditioning in the Army Air Forces Convalescent Hospital program during the war, this study was continued at the Fhysical Education Research Laboratory, Springfield College, under auspices of the Office of Naval Research. In the course of this work, apparatus and objective techniques were devised for measuring the strength of muscles activating movements of the joints. Initially, 28 tests were proposed, based on certain movements of the wrist, elbow, shoulder, hip, knee, and ankle joints. These tests, reduced to 22 in number, have subsequently been refined and improved as a result of additional research. Also, tests measuring the strength of other joint movements of the body, including the finger, neck, and spine, and additional movements of the wrist and ankle, are in process of construction. These tests are eventually intended for application to muscles involved in orthopedic and neuro-muscular disabilities.

In this type of objective strength testing, a specially adapted and calibrated aircraft tensiometer is utilized to record the amount of tension the subject can apply to a cable appropriately placed for specified movements of the joints. A homemade pulling apparatus is used. The subject is tested on a plinth, referred to in this report as the testing table.

After extensive review by consultants on physical medicine at the Mayo Clinic, improvements in the testing process were studied during the past year by graduate students in physical education at Springfield College. One phase of this research, the amount of muscle strength applied throughout the range of motion of certain joints, provides the basis for this paper. It will be discussed, not as a part of test construction, but as a study of the relationship of joint position to the application of muscle power. Fourteen movements of the joints were included in this research.

In conducting this study, a number of test positions, between 20 and 25 degrees apart, were selected for each joint movement. The fatigue element from repeated maximal exertions of the same muscles, while present, was reduced by spaced testing and was equalized by systematically changing the sequence of tests for the various subjects. The subjects were 64 non-disabled male students at Springfield College.

In the tests which follow, the pulling strap was always at 90 degrees to the limb acting as fulcrum. For all movements, except where the thigh and foot acted as fulcrum, it was located midway on the limb between the two adjacent joints; for the thigh, it was around the lower third. Zero degrees is a position away from the median line of the body; 180 degrees parallels and is in line with the body. Thus, for example, at 0 degrees in shoulder abduction, the arm is over the head; and at 180 degrees, it is close to the body.

It should be observed that the gravity factor in these tests is not controlled. In some tests, the weight of the limb is lifted in the movement; in others, the weight is recorded in the test score; and in still others, the effect of weight is so slight as to be nearly non-existent. As a consequence, the absolute strength of the muscles (in which the gravity or weight factor is completely included in the score) is not recorded in this research.

Three general types of joint strength

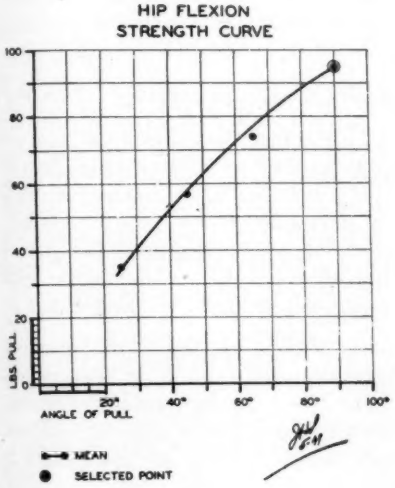

FIGURE 1

curves were found: (1) ascending curves, that is, increase in strength on motion of the joint from angles of 0 to 180 degrees, (2) descending curves, and (3) ascending-descending curves, with greatest strength exhibited near the center of the range. There are individual variations of pitches and plateaus within these classifications, as will be seen in the graphs.

Ascending Curves

Tests of six of the joint movements revealed ascending curves. Three of these, hip flexion, knee flexion, and ankle dorsi flexion, had steep pitches. In tests of two other joints, shoulder abduction and shoulder flexion, the strength exerted started low at 0 degrees, rose for a distance to a plateau in the center and finally rose again to 180 degrees.

Hip Flexion (Figure 1)

The position for this test was with the subject sitting and leaning backward at end of the testing table, with legs hanging free, arms extended to the rear, elbows locked, and hands grasping sides of the table. The tester prevented lifting of the buttocks by bracing with the hand.

This test was restricted to measure the strength exerted from 25 degrees, close to the body, to 90 degrees, at a right-angle sitting position. As seen in the graph, the subjects could only pull an average of 35 pounds with the thigh fully flexed, while recording an average of 90 pounds (plus the weight of the leg at test position) when the flexors of the thigh were on greater stretch. The pitch of the curve representing strength is very sharp, being a straight-line rise. It is believed that still greater strength would have been possible in this joint movement if the position of the body had been so arranged as to allow a greater extension of the hip when testing.

Knee Flexion (Figure 2)

For this test, the subject was in prone position on the testing table with arms above the head. The chest was held to the table to prevent extension of the spine.

A rise similar to that on the hip flexion test was found in this movement, except that there was a leveling off between 145 and 180 degrees. Again, increased strength was exerted when the muscles were on greater stretch. The leveling off at the top of the curve may be accounted for by unsatisfactory leverage as the knee reached a straightened position. This phenomenon did not occur in tests of hip flexion possibly because the movement of the joint was not tested beyond 90 degrees.

Ankle Dorsi Flexion

The test position was with the subject supine on the testing table, legs extended at hip and knee joints to 180 degrees, arms folded on chest.

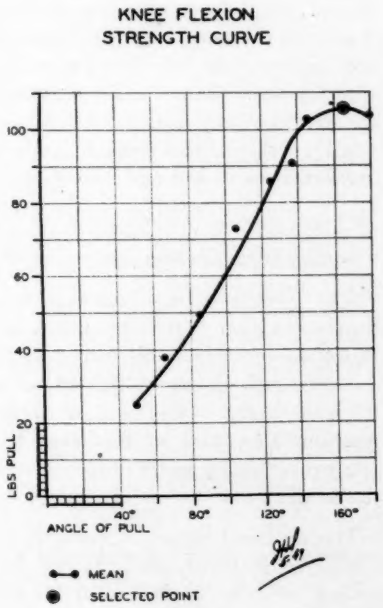

FIGURE 2

The ankle being tested was in mid-position of inversion and eversion. Flexion of the knee and of the metatarsal-phalangeal joints was prevented by the tests.

As only three angle positions were used for this joint movement, a graph was not prepared. However, the results of the testing were as follows:

Angles	*Means*
90	56.40
105	81.25
125	86.05

Again, as the stretch of the muscles increased, the amount of strength applied became greater, although the test scores leveled off at the largest angle of 125 degrees. The leveling off is probably due to poorer leverage encountered in this position.

Shoulder Abduction (Figure 3)

In this test, the subject was in a supine position, with hips and knees flexed, feet resting on the testing table, and free arm on chest. The tester prevented elevation of shoulders by bracing with the hands.

In this movement, the greatest strength was applied when the arm was at 180 degrees, close to the side. A plateau extended from 90 degrees to 135 degrees, the effectiveness of the muscles being about the same through this range. As the arm extended sideward overhead, the weaker scapular rotators became less and less effective.

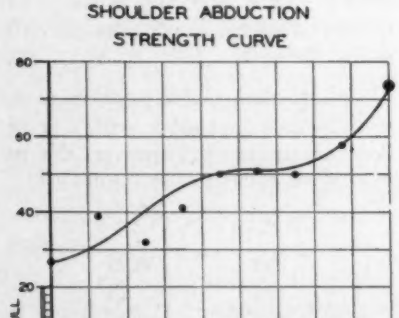

FIGURE 3

Shoulder Flexion (Figure 4)

The subject in this test was in a supine position with hips and knees flexed, feet resting on the testing table, and free arm on chest. The elbow of the arm being tested was in thrust position. Elevation of the shoulders was prevented by tester's bracing with the hands.

The resultant curve of strength for this movement was similar to the preceding one: the height was at 180 degrees; the plateau, from 90 to 135 degrees. The reduced power of the extensor muscles of the shoulder girdle may be seen as the arm extended forward overhead. Subsequently, with an entirely different group of subjects, this strength curve was continued to 240 degrees, the arm extended backward from the median line of the body, with the following results:

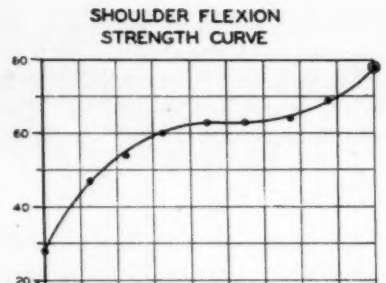

FIGURE 4

Angles	*Means*
180	92.70
210	93.13
240	111.05

The strongest position for the movement, therefore, was with the elbow extended well to the rear of the body.

Hip Adduction

The subject in this test was in supine position, legs resting on the testing table, arms folded on chest. To prevent flexion of the thigh, the tester braced against free leg and hip of side being tested.

As only three angle positions were used for this movement, a graph was not prepared. However, the results of the testing were as follows:

Angles	*Means*
135	106.28
160	102.22
180	91.08

A slight drop of 4.06 pounds was found for the 25 degree change in joint angle, 135 to 160 degrees, followed by a greater decrease of 11.14 pounds for the next 20 degrees.

Descending Curves

Four of the joint movements, hip extension, elbow extension, ankle plantar flexion, and hip abduction exhibited descending curves. In these curves, the greatest strength was applied when the fulcrum was away from the body; and the least, as it approached the median line. All of these exhibited plateaus or near plateaus.

Hip Extension (Figure 5)

In this test, the subject was in a supine position with free knee flexed, foot on testing table, and arms folded on chest. Thigh being tested was adducted to 180 degrees. The tester braced the subject's shoulders, and prevented lifting of the buttocks.

As shown in the graph, greatest strength was exerted in this movement when the hip was fully flexed, with the muscles tested being at their full length. It will be noted that a

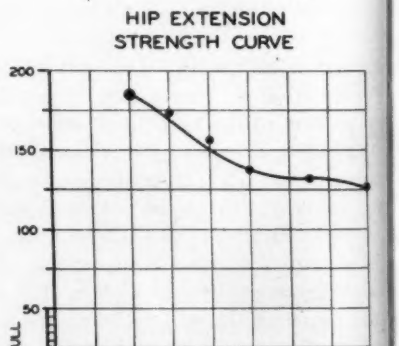

FIGURE 5

plateau existed at the end of the test, which was partly due to the increased effect of the weight of the leg on test scores as it straightens out. The power of the extensors of the hip was great indeed, the average for the subjects tested being 180 pounds.

Elbow Extension (Figure 6)

The subject was in supine position with hips and knees flexed, feet resting on testing table, and free arm on chest. The arm being tested was adducted at the shoulder to 180 degrees. By appropriate bracing, the tester prevented elevation of the shoulder, raising the elbow, and abducting the upper arm.

The strongest position for movement of this joint was with the elbow fully flexed when the muscles were on greatest stretch. The plateau was from 80 to 140 degrees, followed by some dropping off as the elbow straightened and the advantage of leverage was lost.

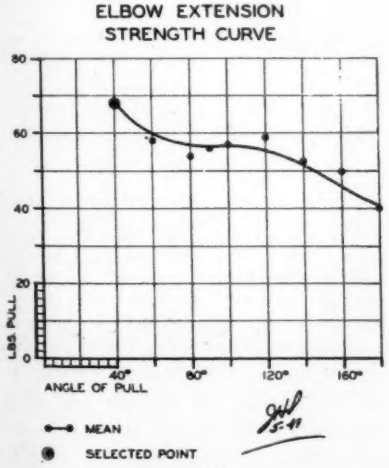

FIGURE 6

Ankle Plantar Flexion

The subject was in a supine position, legs extended at hip and knee joints to 180 degrees, arms folded on chest. The body was braced at the shoulders to prevent sliding on the table; and the leg was kept in contact with the table by further bracing.

A graph was not prepared for this movement, as only three angle positions were used. However, the results of the testing were as follows:

Angles	*Means*
90	149.85
105	133.90
125	118.45

The curve in this instance is nearly a straight line, dropping approximately 16 pounds for each angle change. The foot held at a right angle was the strongest position for this movement.

Hip Abduction

The subject was in a supine position, legs resting on testing table, free leg flexed to permit clearance of cable, arms folded on chest. The hip was braced to prevent raising.

With only three angle positions for this movement, a graph was not prepared. The results of the testing were as follows:

Angles	*Means*
135	67.05
160	77.15
180	84.58

A fairly steep rise was found throughout this relatively small movement. The strongest position was at 180 degrees, with the leg in line with the body.

Ascending-Descending Curves

Four of the tests yielded ascending-descending curves. The curves started at a low point at one end, rose to a maximum height in the middle, and descended to a low point at the other end.

Elbow Flexion (Figure 7)

The subject was in the supine position with hips and knees flexed, feet resting on testing table, and free arm on chest. The arm being tested was adducted at the shoulder to 180 degrees; the forearm was in midprone-supine position. Bracing was applied by the tester to prevent raising the elbow and abducting the upper arm.

In this movement, a plateau existed at the strongest position for pulling, 100 to 140 degrees. The low point of strength was at full flexion of the elbow. At full extension, the muscles are on greatest stretch, but the leverage was poor.

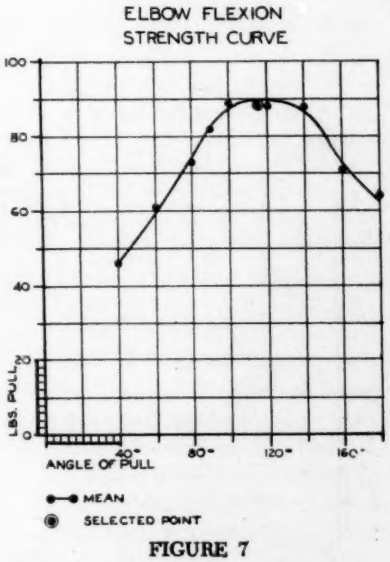

FIGURE 7

Shoulder Adduction (Figure 8)

The subject was in a supine position with hips and knees flexed, feet resting on testing table, and free arm on chest. The humerus of the arm being tested was rotated inward by turning forearm across chest; hand held low toward opposite shoulder.

The graph representing strength was nearly symmetrical from 25 degrees to 180 degrees. A slight plateau between 90 and 110 degrees was apparent. Greatest power, therefore, was exhibited when the arm was at right angles to the shoulder. The adductors of the shoulder are at a disadvantage due to loss of tension when the arm is close to the side of the body (180 degrees), and the weaker scapular rota-

tors are evident as the arm pulls from an overhead position.

Shoulder Extension (Figure 9)

The subject was in supine position with hips and knees flexed, feet resting on table, and free arm on chest. Arm of shoulder being tested was adducted at shoulder to 180 degrees; and forearm was in midprone-supine position. The tester prevented shoulder elevation by bracing; and prevented humerus abduction by guiding with the hand.

Only relatively small changes occur throughout the movement of this joint: from a low of 59 pounds at 180 degrees to a height of 78 pounds at 65 degrees, a difference of only 19 pounds. The variance between 45 and 135 degrees is only 6 pounds, 72 to 78 pounds.

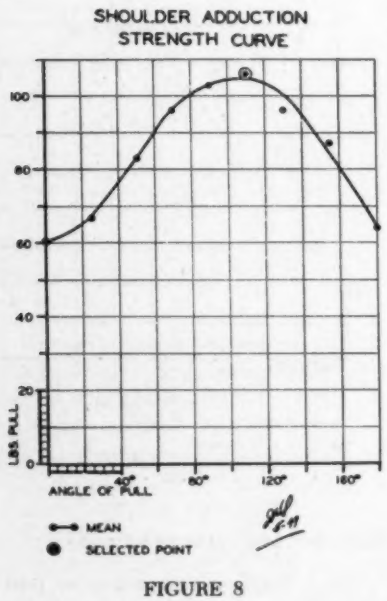

FIGURE 8

Knee Extension (Figure 10)

The subject was in a sitting position, leaning backward with arms extended to the rear, hands grasping sides of testing table, and legs hanging free. The thigh of leg being tested was adducted at the hip to 180 degrees. Lifting of the buttocks and flexion of the arms were prevented by the tester.

The plateau for this movement of the joint was from 105 to 125 degrees, the high point of the curve. The low point was at full extension, 180 degrees. At the opposite point, full flexion, the muscles were on greatest stretch, but, although they pulled well, they appeared to be at a mechanical disadvantage.

Conclusions

These studies of the amount of strength that can be applied by the muscles throughout the range of motion of these fourteen joint movements provide objective evidence for the statement that, other things being equal, a muscle exerts its greatest power when it functions at its greatest tension; that the angle at which the muscle pulls is of importance but probably not as important as the tension; that the mechanical arrangements of the levers sometimes interferes with the full application of strength, even though the muscles may be at their greatest length; and that there probably is an optimal position in which each muscle group functions the best.

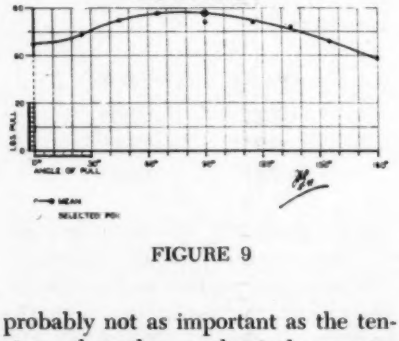

FIGURE 9

Stabilizing force, or the force exerted parallel to the long axis of the bone is not measured in this study. However, in the knee extension test studied, this force may be considerable at full extension of the knee and in addition to the rotary component measured.

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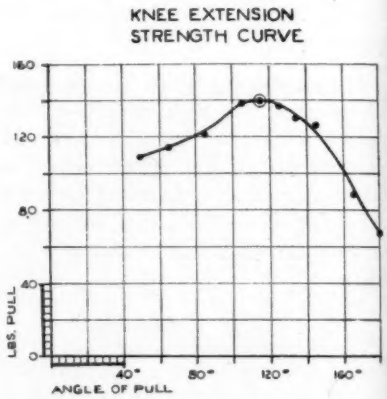

FIGURE 10

ACKNOWLEDGEMENTS

Acknowledgements are made to the following graduate students in physical education at Springfield College, Mass., who assisted in the collection of test data and in the statistical computations necessary for the studies reported and others completed in orthopedic strength testing under Office of Naval Research auspices: James L. DePasquale, Dean U. Harrell, Paul B. Kirkland, Donald K. Mathews, Henry J. Pilote, Jr., Edwin J. Richardson, Arthur R. Troisi, and Nicholas F. Troisi, Jr.

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SOME VALUES IN MUTUAL CONSULTATION BETWEEN CORRECTIVE THERAPISTS AND SOCIAL WORKERS*

By

IRENE GRANT

Chief, Program Standards Section

SOCIAL SERVICE DIVISION, CENTRAL OFFICE

VETERANS ADMINISTRATION

One of the factors that helps account for the spectacular results today from services to handicapped people is this planned development: A wide variety of specialists are combining their skills under medical supervision to strengthen the handicapped person, both physically and emotionally, in carrying forward his own fundamental purposes, in taking on new activities, and in discovering new satisfactions.

Among these specialties are two—corrective therapy and social service—they are only beginning to comprehend the range of each other's contribution to the total result and, consequently to unite their forces in the patient's behalf. Their well integrated total services can go far beyond the mere sum of their isolated efforts to assist him.

This joint approach to the patient is possible because they have three concerns in common that constitute the essence of their work: a common need for a growing understanding of the patient regardless of his age or disability; some common immediate and long-range treatment aims; and a common concern for the permanent maintenance and even advancement of the results of treatment by the patient after hospital discharge, that is, continued reduction of disablement and continued and increasing satisfactions in everyday living. Experience in hospitals and clinics where there is even some awareness that these are three mutual concerns on the part of the corrective therapist and social service, is revealing new opportunities and necessities for sharing insights and for mutual planning.

A Common Need for a Growing Understanding of the Patient

Take first the common need of really understanding the patient. Is not this the universal, though often wordless, appeal of most of us, sick or well, in all our relationships to other people? Meeting this appeal from the patient in such a way that he realizes that he is understood, accepted, given "love unsolicited" (the Topeka phrase), and in such a way that he is helped better to understand himself and his own capacities, is a necessity that is the equal responsibility of the corrective therapist and the social worker.

It is sometimes not enough, important though it is, to listen carefully to the patient, observe him, and try to grasp what he is seeking to convey. Even the medical staff, in seeking to understand the patient, are sometimes hesitant about depending solely on the patient's current appearance, words, behavior, apart from his past and present home setting and its influences. It is a great practical help to the corrective therapist, in identifying the patient's problems and in thinking of possible projects that will appeal to him and stimulate his collaboration, if the therapist can feel he has known this patient as a person before he got into this serious predicament; that he knows what hardships he has undergone in the past, and what successes have been his. It is a help to know what personal responsibility and problems he is currently facing; how his present health, his state of mind toward treatment, his outlook on the future, are all affected, and perhaps even largely caused, by the influences in his home setting and neighborhood.

Such understanding of the patient creates respect for him and the effort he has put into finding some way to relieve his health problems and the social factors that partly cause and tend to complicate it. This understanding brings greater acceptance of him as a person and more tolerance toward his behavior.

This understanding of the patient

* *Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are the result of her own study and do not necessarily reflect the opinion or policy of the Veterans Administration.*

is obtainable not only from the physician and from the therapist's own direct contact over a considerable period with the patient, but often even more vividly and quickly from social service. Their representatives with the patient's approval, often in fact upon his suggestion, may have personally visited the relatives in their home settings, or the relatives may have come to see the social worker in the outpatient clinic or hospital. Such understanding will bring a more objective perspective on the nature of his problem as they see it at home; how it began; what their influence is upon the patient; whether their resources, tangible or intangible, are available to him. It is the social worker's responsibility to know whether the relatives can be counted upon with some social service explanation and other help, to grasp the positive role they can play in encouraging the patient's effort toward recovery.

Too often in the past the social study of the patient, or his social history, has been taken from both the patient and his family without, it may be admitted, enough regard to the pertinency of the details elicited to a real understanding of his problem. Social Service departments are becoming more attuned to what is significant to his condition and his recovery in his current relationships, pressures, and deprivations. They are trying to include details that are pertinent to carrying out not only their own responsibility to the patient but to the work of other personnel concerned.

For example, it is as important to the corrective therapist as to the social worker to know that the patient's brother was a great athlete, the pride of the school; whereas, he himself was mostly a failure, not only in athletics but in the other things that seem important to him. It is also important to both specialists to know the good capacities that both the patient and the family may have overlooked.

The accent in the social study today is upon understanding the feelings which exist within the home toward the patient; their relationships, constructive or destructive, toward the patient; the feelings the patient himself has toward past events in his life and his present circumstances, and toward the people by whom he is surrounded. The patient and the family's attitude toward his condition and its treatment is also of prime importance. The social study is designed not only to see how events, personal situations, and attitudes are contributing to the nature and severity of the patient's disability; but to what extent they have positive values which can be strengthened to help in the reduction of his disability. The providing of adequate case work service may require understanding of what the patient's disability has done to the family's way of life, their outlook upon the future, their hopes and fears. Their suggestions for helping the patient and their readiness to participate in the total planning are important factors which the social worker takes into account in assisting the patient to become freer to get the most out of his treatment and make his best readjustment in the home and the community.

The sharing of material of such great confidentiality is a problem in professional relationships. Utmost confidence in each other's integrity in handling shared data is a necessity. The patient has a right to feel, and must see indications that every one in the hospital and in his home environment is constantly working with him and with each other to promote his best progress. Still it is human nature and just as characteristic of the sick as of the well person, to prefer to give one's confidences one's self, instead of suddenly hearing them referred to by a third person.

It is one sign of professional maturity, I think, when the corrective therapist uses the material secured from the social worker to help him see what the patient needs most from his own relationship with the patient, and invariably avoids reference to any really personal or emotionally charged data given him by the social worker. The same holds true for the social worker with reference to information given by the corrective therapist; both should use any material secured from others merely as indications of areas which the patient himself can be led to develop with them directly, should it be pertinent to their specialized work with the patient, to have him to do so.

This growing understanding of the patient is a continuous process. It is not something that occurs in the first two interviews and is written up for some record to be forgotten. Gaining more understanding needs to be—for both corrective therapist and social worker—a conscious, continuous responsibility throughout the period of work with the patient. Not only is the patient constantly revealing new aspects of himself as a person, new resources within himself, if there are eyes and ears and a spirit to observe them; in addition his circumstances, his home relationships may change and new causes for worry arise.

It is rewarding to both profession and consequently to the patient himself, when the corrective therapist and social service keep closely in touch with each other to share these new insights into his needs and capacities, and what may be expected in the way of obstacles or support from his personal and physical environment.

Some Common Immediate and Long-Range Treatment Aims

The common fundamental treatment goal held by all participants in a comprehensive medical program of care today, is to enable the patient to make his best social adjustment. The purpose of restoration to health and optimum physical and mental functioning, is to enable the patient to carry with maximum comfort and s-

tisfaction, his responsibility for himself and his share of responsibility in his social relationships; that is, in his relations to other persons, to his work, and the life and activities of his community. This I believe is the basic aim not only of the doctor, but the educator, the minister, the teacher for leisure-time activities. In working with the handicapped, the social worker and corrective therapist share this aim, both in their immediate and long-range goals in relation to the patient. Dr. Rusk and Mr. Taylor, in discussing the psychological impact of physical disability have said: "The primary consideration it would appear, is the general emotional stability of the individual. . . . it is not pity but acceptance and understanding which the physically and emotionally handicapped seek . . . having once made the emotional adjustment to their disabilities, they possess a depth of understanding, patience, and tolerance which is rarely found among those who have not endured the physical hardship of disability. They have been forced to discard the superficial and find the fundamental."(1)

Helping the patient to recognize these fundamentals and accept those aspects of his condition or circumstances which positively cannot be altered, is a goal held in common by the corrective therapist and the social worker. The former helps the patient reach it through a combination of the personal relationships he estabishes with the patient and the helpful activities in which he engages the patient. He enlists the patient's interests and collaboration in activities which will improve both his physical condition and his mental outlook, as well as his ability to associate more normally with others.

The social worker with the same basic goal in view, works also through a relationship with the patient and his family and with other elements with patient's environments, to relieve unnecessary strains upon him in his relation to others. The effort is made to help him become freer from both his inner and environmental problems, so that he is able to concentrate upon the range of medical and social resources that are actually available to him.

The effort is also made to alleviate the problems that his illness has created for the others in his environment also, since such problems can further complicate the patient's life and his attitude toward his condition. The social worker works with the patient and his relatives to help them meet both the realities currently faced and those which will be even more acute upon hospital discharge.

The relatives also may need help before they can discard the superficialities and recognize and find satisfaction in the fundamentals in personal relationships and in their daily activities. They too may need help in changing their tempo and customary way of living, to permit the patient to have some satisfying share in the family's amusements and projects. They may need help in enabling the patient to feel he is a valued member of the family, not an excluded or rejected one. The effort is made to help the family avoid building up resentment, inferiorities, and a sense of injustice over what life has brought them as well. Further, relatives may not at first realize how hard it is for some disabled person always to receive help and never be in a position to repay it in ordinary ways.

The case work effort is made to increase insight on the part of relatives and others into the patient's special needs; to help the family see the points in which they can actively participate in helping him recover and maintain his maximum health; and in strengthening the sense of personal support which he needs from others, in order to regain and keep his sense of adequacy and spirit of self-dependence. The conviction must be kept alive that the patient does have something to offer to others.

The patient can seldom be helped to the maximum by either the social worker or the corrective therapist, without providing suitable modification of unnecessary hardships in his environment, and strengthening the positive influences and resources there.

In fact, until some of the environmental changes can be made, or if this is impossible, until the patient can be helped to accept immovable realities, it may be impossibe for the corrective therapist to reach even an immediate objective with the patient. Take for example, the objective of teaching the patient to relax. As the writer of a recent article in this Journal has said: "The patient must be impressed to relax and rest every possible muscular group when tensions start and action are not necessary . . . the patient must be trained to break habits resulting in muscular and mental tensions and nervous movements, that though significant at the moment, if continued over a long period, cause fatigue."(2)

Such relaxation puts him in a better mental and physical state for meeting new experiences and dangers with less effort and discomfort. But what is it that so often causes him to slip back into muscular and mental tenseness. Is this tenseness not a sign that his body is bracing itself against misfortune — actual or dreaded—such as friction with others that sometimes arises right on the hospital ward; or dread in relation to certain forms of treatment; or lack of sense of well-being in relation to family and friends; or the emotional pressures from living in a family group of perhaps difficult deprived people; or the unhappiness from too great isolation from others or from a reassuring yet challenging group of congenial people; or the uncertainties about a future job.

Undoubtedly, if the patient can be taught to relax, he will have more energy to meet such personal prob-

lems. The results for the patient can certainly be better and more lasting, however, if at the same time that relaxation is being taught, social work assistance is provided the patient in actually resolving such personal problems. Some of these areas of anxiety, misgivings, and uncertainties, can be handled through direct case work with the patient himself; some require work with the family and community forces. When some of these influences upon the patient's state of mind and emotions are modified or redirected to the patient's advantage, he becomes freer to concentrate upon using the whole range of help which the corrective therapist is ready to provide.

But first the social worker has to be aware that something is troubling the patient. Some of the best indications of what is really going on in the mind and heart of the patient, are those that come as a casual, incidental remark, made in almost an aside to the observing, listening, responsive correct therapist in the course of their friendly relationship. The patient may reveal his problem while throwing a ball back and forth to the therapist or while being encouraged to enter some group activity; or while the corrective therapist is exploring his interests or his prowess in some sport or game in past years.

Further, the patient may feel freer and a sort of release in verbalizing his thoughts and emotions at a time when he is in a free atmosphere where the attention appears focused not so much upon what he is saying as upon what he is actually doing, and that in collaboration with the corrective therapist or a fellow patient. Further, the patient's behavior in the group, his shyness, his tendency to withdraw from the activities of his associates, or dominate them, may be of great significance to the social worker in her relationship to the patient and endeavor to be of the greatest help to him. The social worker needs to use the same careful approach to the patient in regard to what he has said to the corrective therapist, as she expects the latter to give to material she provides regarding the patient.

How best to help patients to use these two professional services is an area which can well be further explored. The social worker appreciates it when the corrective therapist explains to the patient how he can use social service in connection with such problems as he is facing; and when the corrective therapist builds up the patient's confidence in the social worker's ability to be of help.

A Common Concern for the Patient's Progress Following Hospital Discharge

The third common concern between the two professions is the desire to do everything possible to help the patient carry over into the community life, and advance, the gains he has made during hospitalization. A physician writing in the August 1949 Journal said "The social worker is an important member of the rehabilitation service, laying the groundwork for the patient's final readjustment to home, family, and job."(3)

The environmental setting to which the patient returns will determine whether the patient will be able to continue to reduce his disablement and to increase his satisfactions in everyday living. The social worker is concerned in helping the patient ameliorate the physical home setting; in increasing the emotional and psychological support he can secure there; and in putting him in touch with social, health, and leisure-time resources of the neighborhood and the opportunities it affords for suitable employment.

The corrective therapist may need to depend upon the social worker to arrange for the medically prescribed continuation of the activities in which he has engaged the patient. This will require the social worker's understanding of what they are; and learning what resources exist in the circle of family friends and the community for further activity along the lines which the therapist considers useful to him. The good will and interest of the family or some agency in helping him carry through such activities may be necessary. Otherwise, he may slip back to the same condition in which he was upon entering the hospital.

Too little thought has been given to helping disabled persons find a way of profitably filling their enforced or natural leisure time—whether the patient is on trial visit in remission from a psychotic episode, or trying to overcome the handicap of living within the physical limitations surrounding the tuberculous or paraplegic patient, or one with a heart condition.

Many of the activities in which the corrective therapist engages the patient have values that he could well carry through into future leisure time, both to maintain his physical well-being and increase his pleasure. As one educator has said: "Our leisure must take in two qualities, first, play, in order to relieve strain—this must take the place of any artificial escape; and second, recreation to build up our bodies so they will be prepared to meet the strains. In addition to these, there must be certain mental satisfactions connected with these two elements . . . so that our lives can be harmonious and relieved of conflict and stress. In this third element is the opportunity for the enrichment of adult life."(4)

The corrective therapy activities in which the patient has been engaged in the hospital; the way in which he he has related himself to others; the games that are within his ability, or will increase his ability, are all of importance to the social worker in considering what arrangements the patient can be helped to make, for ex-

ample, with the YMCA, or a service organization for opportunities for swimming, tennis, participation in ball games, and so forth. It is important to help the patient see that with the cooperation of others he can continue to live and work and play in a way that is beneficial to his physical and mental health. Undoubtedly these hospital activities often provide clues not only to continued leisure-time interests and pleasurable activities with a group, but to appropriate employment as well. The social worker, in order to help develop the most helpful home setting, must therefore have the aid of the corrective therapist in visualizing what the patient's needs and capacities are, psychologically and physically.

The needs for common understanding of the patient as a person, common long-range treatment goals, common concern for helping him upon discharge to make the transition from hospital adjustment to the new challenge of living in the community with maximum satisfaction to himself and others, all require that the corrective therapist and the social worker continually seek new methods of integrating their resources, in order to provide an increasingly effective service to the disabled person.

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Los Angeles Chapter News

Staff members of the Physical Medicine Rehabilitation Services (PMRS) of Wadsworth and Brentwood V. A. Hospitals presented a series of orientation lectures on the therapeutics, treatments and rehabilitation of patients as administered by the sections of physical medicine at Wadsworth and Brentwood.

A brief introduction to the subject of rehabilitation was given by Mr. John L. Bunker, Loyola '42, and member of the Department of Corrective Therapy at Wadsworth.

Mr. Mont Hamilton, executive assistant, PMRS Wadsworth, began the series of lectures with an explanation of physical therapy, corrective therapy, educational, occupational, and manual arts therapy. Mr. Hamilton gave a brief history of the evolution of these services and their objectives which strive for the total rehabilitation of the physically and mentally handicapped.

The second speaker, Mr. Murray Levitta of Wadsworth, presented a paper on physical medicine by Howard A. Rusk, M. D. Consultant, Physical Rehabilitation, Baruch Committee. "By integrated programs of physical reconditioning, educational training, vocational guidance, phychological readjustment and resocialization designed to treat the whole man," he reported, "the individual patient was started at the earliest possible moment on a continuous program which stopped only when he had reached maximum improvement."

Assistant Chief Harry Hart of corrective therapy at Brentwood spoke on the rehabilitation of the mentally handicapped. The guilt complex, schizophrenic and manic-depressive types of mentally disordered personalities were discussed through their basic causes, and Mr. Hart offered methods of approach and treatment.

"Journey Back," a VA film on the rehabilitation of a hemiphlegic patient closed the series of lectures. Mr. Rhinehart, Executive Assistant, PMRS, Brentwood, gave an introduction to the film.

Due to a federal inspection of Birmingham Hospital, Mr. George Devins, Chief, Corrective Therapy, and Mr. Aldo Romiti, executive assistant at Birmingham, were unable to attend the lectures.

New York Chapter Formed

The Metropolitan area members of the Association for Physical and Mental Rehabilitation held a sectional meeting at the Hotel New Yorker March 11, 1950. The purpose of the meeting was to form an area chapter of the A.P.M.R.

Sam Borouchov, Chief of Corrective Therapy, Northport, V.A.H. presided at the first meeting, and elections were held for temporary officers. The results of the election were as follows:

Wendell B. Browne .....*Chairman*
John J. Halbin .....*Secretary*
John Baldino .....*Treasurer*

After the election of the officers a vote was held for the organizational name. The name of New York Chapter was victorious after serious discussion by the floor.

A meeting is to be held prior to the National Convention so as to discuss:

1. Presentation of material for the delegates to present at Memphis. It is hoped that this Chapter would endeavor to carry out the objectives of the parent organization in this area.

2. Stimulation of the group to obtain their wholehearted participation in the coming National Covention at Memphis, Tenn.

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GREETINGS

from

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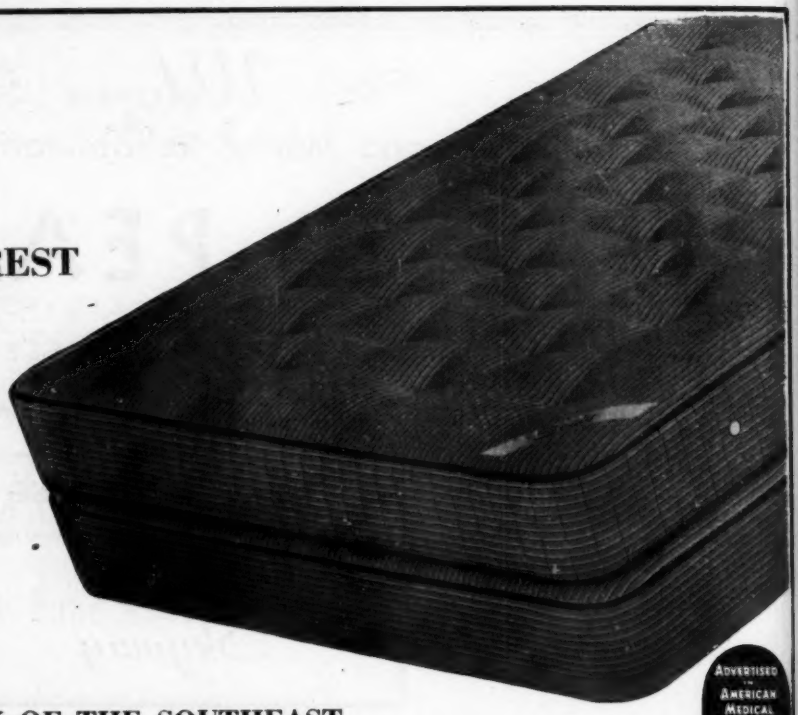

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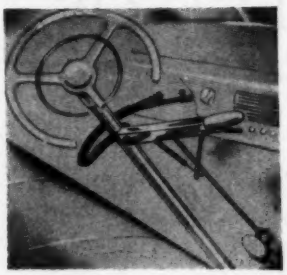

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DISABLED INDIVIDUALS CAN SWIM WITH FLOAT - EES swim trunks

(Photograph taken at Bronx V. A. Hospital showing first swimming efforts of paralyzed patients with FLOATEES swim trunks)

FLOATEES are of great assistance to the therapist in administering underwater exercises to the patient with Paraplegia, Multiple Sclerosis, Hemiplegia, Quadraplegia, Amputees, and other physical disabilities. Bronx V. A. Hospital, Chillicothe V. A. Hospital and many other veteran's hospitals are now successfully using FLOATEES in Therapeutic Swimming Programs.

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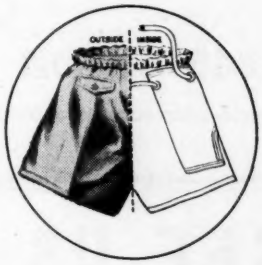
Developed by a naval officer these trunks are fitted with inflatable, concealed pontoons that float you.



FLOAT-EES LOOK LIKE ANY OTHER SWIM SUIT
POSITIVELY WON'T TIP YOU UPSIDE DOWN
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